

CENTRAL MACHINERY®

Aluminum Wheel Balancer with Level

Model 91939

ASSEMBLY AND OPERATING INSTRUCTIONS



Distributed Exclusively by

**HARBOR FREIGHT
TOOLS**

3491 Mission Oaks Blvd., Camarillo, CA 93011

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For technical questions and replacement parts, please call 1-800-444-3353

Specifications

Construction:	Die Cast Aluminum Steel Ball Bearings Bullseye Bubble Level	Dimensions:	Balancer Diameter 1-1/4" to 6" taper Height: 9-1/2" Base Diameter: 5-1/2"
Hub Size:	2" to 5-1/2" Diameter	Net Weight:	2.30 Lbs.
Leveling:	3 Base Bolts included	Max. Weight Capacity:	132 Lbs.

This tool is very useful for balancing wheels with hub diameters from 2 to 5-1/2". The bullseye bubble level will tell you immediately whether a wheel is in balance, and will guide you in placing the appropriate weights (not included) to achieve balance. This simple, sturdy tool requires no power, and may be used on any hard, level surface.

Save This Manual

You will need the manual for the safety warnings and precautions, assembly instructions, operating and maintenance procedures, parts list and diagram. Keep your invoice with this manual. Write the invoice number on the inside of the front cover. Keep the manual and invoice in a safe and dry place for future reference.

Safety Warnings and Precautions

WARNING: When using tool, basic safety precautions should always be followed to reduce the risk of personal injury and damage to equipment.

Read all instructions before using this tool!

1. **Keep work area clean.** Cluttered areas invite injuries.
2. **Observe work area conditions.** Do not use machines or power tools in damp or wet locations. Don't expose to rain. Keep work area well lit. Do not use electrically powered tools in the presence of flammable gases or liquids.
3. **Keep children away.** Children must never be allowed in the work area. Do not let them handle machines, tools, or extension cords.
4. **Store idle equipment.** When not in use, tools must be stored in a dry location to inhibit rust. Always lock up tools and keep out of reach of children.
5. **Use the right tool for the job.** Do not attempt to force a small tool or attachment to do the work of a larger industrial tool. There are certain applications for which this tool was designed. It will do the job better and more safely at the rate for which it was intended. Do not modify this tool and do not use this tool for a purpose for which it was not intended.

6. **Dress properly.** Do not wear loose clothing or jewelry as they can be caught in moving parts. Protective, electrically non-conductive clothes and non-skid footwear are recommended when working. Wear restrictive hair covering to contain long hair.
7. **Use eye and ear protection.** Always wear ANSI approved impact safety goggles. Wear an ANSI approved dust mask or respirator when working around metal, wood, and chemical dusts and mists.
8. **Do not overreach.** Keep proper footing and balance at all times. Do not reach over or across running machines.
9. **Maintain tools with care.** Keep tools maintained and clean for better and safer performance. Follow instructions for lubricating and changing accessories. The handles must be kept clean, dry, and free from oil and grease at all times.
10. **Remove adjusting keys and wrenches.** Check that keys and adjusting wrenches are removed from the tool or machine work surface before operating.
11. **Stay alert.** Watch what you are doing, use common sense. Do not operate any tool when you are tired.
12. **Check for damaged parts.** Before using any tool, any part that appears damaged should be carefully checked to determine that it will operate properly and perform its intended function. Check for alignment and binding of moving parts; any broken parts or mounting fixtures; and any other condition that may affect proper operation. Any part that is damaged should be properly repaired or replaced by a qualified technician.
13. **Replacement parts and accessories.** When servicing, use only identical replacement parts. Use of any other parts will void the warranty. Only use accessories intended for use with this tool. Approved accessories are available from Harbor Freight Tools.
14. **Do not operate tool if under the influence of alcohol or drugs.** Read warning labels on prescriptions to determine if your judgment or reflexes are impaired while taking drugs. If there is any doubt, do not operate the tool.
15. **Maintenance.** For your safety, service and maintenance should be performed regularly by a qualified technician.

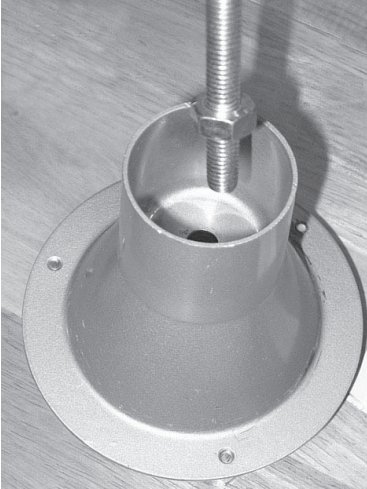
Warning: The warnings, cautions, and instructions discussed in this instruction manual cannot cover all possible conditions and situations that may occur. It must be understood by the operator that common sense and caution are factors which cannot be built into this product, but must be supplied by the operator.

Unpacking

When unpacking, please compare with parts list to be sure that all parts are included.

If any parts are missing or broken, please call Harbor Freight Tools at the number on the cover of this manual.

Assembly



1. Install all three Base Bolts (F) into the Base (E) approximately 1/2 way. These bolts will be used to level the Balancer on your floor. **NOTE:** For best results, you should use the Balancer on a hard level surface, such as a cement garage floor.

2. Thread one of the Nuts (D) approximately 2" up the Shaft (B). Insert the Shaft (B) through the hole in the Base (E) as in the assembly diagram. Thread the second Nut (D) onto the shaft, and tighten to lock the Shaft (B) onto the Base (E).

3. Place the Hub Support (C) onto the Shaft (B).
4. Place the Bubble Level (A) onto the top of the Hub Support (C).
5. Level the Wheel Balancer relative to your floor by adjusting the Base Bolts (F) up or down, until the bubble in the Bubble Level (A) is centered in the bullseye marked in the center of the level.



Operation

1. To operate your Wheel Balancer, first ensure that it is properly assembled and level with your floor as discussed above.



Bubble Level (A)

2. Remove the Bubble Level (A) from the top of the Wheel Balancer to protect it from possible damage when placing the wheel on the balancer.

NOTE: Before balancing, remove all weights from the wheel rim, and assure that the wheel, tire and stem are in finished condition as they will be installed on the vehicle.

3. Place your wheel horizontally with the valve stem up on the balancer with the top of the Hub Support (C) protruding through the center of the wheel. Be sure that the wheel is level on the Hub Support (C) by adjusting the alignment of the wheel to the concentric circles marked around the Hub Support (C).

4. Replace the Bubble Level (A) on top of the Hub Support (C).
5. The Bubble Level (A) will indicate an out-of-balance wheel by showing the bubble out of the center of the bullseye. The bubble will move toward the “light” side of the wheel.
6. Balance the wheel by placing wheel weights of various sizes (not included) on the rim side indicated as “light” by the Bubble Level (A). Careful placement of weights will result in the wheel being balanced. The bubble in the Bubble Level (A) will be centered in the bullseye when the wheel is balanced.

WARNING: When balancing, only place the weights where they are needed. **DO NOT hammer the weights in place while the wheel is on the Balancer.** This will result in damage to the Balancer. Mark the position of the weights, and hammer them on to the rim after the wheel has been removed from the Balancer.

7. Recheck your work after you have installed the weights. Replace the wheel on the balancer with the valve stem up. Check to ensure that the bubble is centered in the bullseye. If it is not, remove the wheel from the balancer, remove the weights from the wheel, and start again from step 3 above. For best results it is important that your wheels are properly balanced before using them on your vehicle.

Maintenance

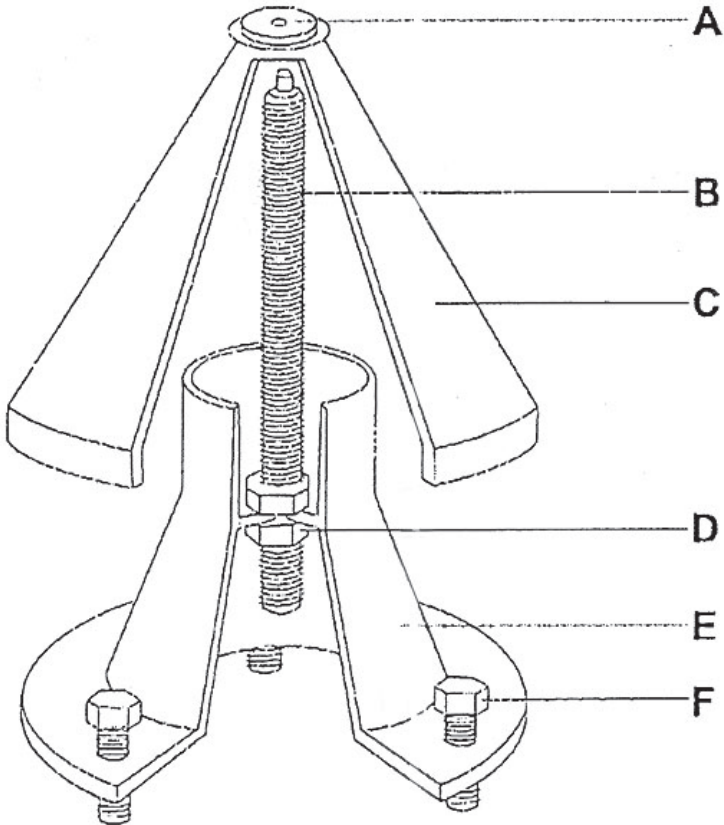
1. If the Wheel Balancer is to be used only occasionally, you should disassemble it and store it in a dry, secure place between uses.
2. If the Wheel Balancer will remain on your shop floor, protect it from damage and hard use. It is a precision tool which may be easily damaged by being banged around.
3. The Bubble Level (A) is especially subject to damage. When not in use, remove it from the Balancer and store in a safe place. To protect it from accidental damage, always remove the Bubble Level (A) from the Balancer when placing the wheel on the Balancer.

Parts List

Part #	Description	Q'ty.
A	Bubble Level	1
B	Shaft m10 x 155	1
C	Hub Support	1
D	Nut m10	2
E	Bottom	1
F	Base Bolts m6 x 20	3

NOTE: Some parts are listed and shown for illustration purposes only and are not available individually as replacement parts.

Assembly Drawing



PLEASE READ THE FOLLOWING CAREFULLY

THE MANUFACTURER AND/OR DISTRIBUTOR HAS PROVIDED THE PARTS DIAGRAM IN THIS MANUAL AS A REFERENCE TOOL ONLY. NEITHER THE MANUFACTURER NOR DISTRIBUTOR MAKES ANY REPRESENTATION OR WARRANTY OF ANY KIND TO THE BUYER THAT HE OR SHE IS QUALIFIED TO MAKE ANY REPAIRS TO THE PRODUCT OR THAT HE OR SHE IS QUALIFIED TO REPLACE ANY PARTS OF THE PRODUCT. IN FACT, THE MANUFACTURER AND/OR DISTRIBUTOR EXPRESSLY STATES THAT ALL REPAIRS AND PARTS REPLACEMENTS SHOULD BE UNDERTAKEN BY CERTIFIED AND LICENSED TECHNICIANS AND NOT BY THE BUYER. THE BUYER ASSUMES ALL RISK AND LIABILITY ARISING OUT OF HIS OR HER REPAIRS TO THE ORIGINAL PRODUCT OR REPLACEMENT PARTS THERETO, OR ARISING OUT OF HIS OR HER INSTALLATION OF REPLACEMENT PARTS THERETO.